

ARGUMENT

1. Rejection over Westlund (U.S. 6,643,550).

Claims 1-5, 8-13, 25 and 29 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Westlund (U.S. 6,643,550). This rejection is respectfully traversed.

The rejected claims require “a component including a surface and a groove formed in the surface; a conductor comprising a plurality of wire strands cabled together, the conductor extending within the lead and positioned within the groove of the component; and a resistance weld formed between the conductor and the component; wherein the groove includes a depth and the conductor positioned within the groove includes a pre-weld diameter, the pre-weld diameter being greater than the depth of the groove”.

The Examiner argues that Westlund teaches such a cabled, multi-strand conductor (or a plurality of wire strands cabled together, as the Examiner would have it), in the form of the conductors 195, shown in cut-away view in Figures 10 C and 10D. This observation is respectfully asserted to be clearly factually incorrect. These figures illustrate a multi-filar coil comprising individual single strand conductors 195. The conductors are not cabled together as required by the claims. Further, each conductor 195 (each strand) is located in a separate groove. As such, the multi-filar coil of conductors 195 cannot be reasonably argued to be a multi-strand cable, welded in the groove, as required by the claims.

As the Westlund patent doesn't disclose a conductor of the type required by the claims located in “a groove” it cannot possibly address the appropriate mechanisms for welding a multi-stranded, cabled conductor into “the groove”. The Examiner contends that it would be obvious to make a pre-weld diameter of the conductor to be greater than the depth of the groove. However, as noted previously, when a single strand wire conductor as illustrated in Westlund is larger than the depth of a groove, the points of greatest resistance would create a weld pool on the surface the conductor that is

outside the groove, likely causing the weld to fail. Possibly this is why in the illustrated embodiments of Westlund, the conductors are shown as having diameters less than or equal to the grooves in which they are located. Presumably if the conductors of Westlund actually were cabled together, the diameter of the resultant cable would correspondingly be less than or equal to any groove in which it might be welded.

The Examiner's opinion that greater, equal and lesser are all "identified alternatives" is respectfully asserted to be per-se inadequate for three reasons. First, greater, lesser and equal are seldom considered equivalents to one another. Ask any engineer, carpenter, cook or mechanic. Second, within the teaching of Westlund, the express teaching is clear that the diameter of a conductor is less than or equal to the recess (groove or bore) in which it is mounted. Third, in the claimed context of resistance welding, these would not in fact be equivalent alternatives in the case of single strands conductors welded in to grooves the reason discussed above. Fourth, even if these three alternatives could be considered as obvious equivalent alternatives in the case of welding single stranded solid wires as disclosed in Westlund, the argument still does not address the questions associated with welding cabled stranded conductors as required by the claims. If the Examiner has some reference which discloses that all three "identified alternatives" have in fact been identified as equivalents in the context of resistance welding of cabled stranded conductors, this reference should be cited.

For at least the foregoing reasons, Applicants assert that the rejection of claims 1 - 6, 8 - 13, 25 and 29 over Westlund fails to meet the standard of common sense and should be withdrawn.

In response to the above argument, the examiner's response is as follows:

"However, the Examiner submits that the claim does not require a multi-strand cable but rather a plurality of wire strands cabled together."

It is respectfully asserted that this statement, however it may be interpreted, does not in any way address the deficiencies in the rejection as set forth above.

2. Rejection over Ley (U.S. 6, 912,423) in view of Bush (U.S. 5,385,578)

Claims 1-6, 8 - 13, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ley (U.S. 6, 912,423) in view of Bush (U.S. 5,385,578). This rejection is also respectfully traversed.

In the Final Action, the Examiner does not dispute that the diameter of the conductive core of Ley is equal to the depth of the groove. The Examiner instead argues that the outer diameter of the insulation (“diameter of the filar”) is still greater than the depth of the groove. This is not disputed by applicants. However, the obviousness of adding a resistance weld to this particular disclosed connection geometry is respectfully traversed for two reasons.

First, as known to the art and as described in the present application, resistance welding is typically accomplished by placing oppositely polarized electrodes on either side of the intended weld site, each in electrical contact with only one of the two metal components to be welded, with the intended weld occurring between the electrodes. In Ley, after insertion of the insulated conductor into the groove, the surface of the “filar” available opposite the intended weld site is covered with insulation, making a resistance weld impractical, or at the very least a bad idea. Yes, the insulation could theoretically be stripped off, but the expressly stated benefit of the connection as disclosed in Ley is avoiding the necessity of performing this step. Adding a process (resistance welding) to the disclosed connection geometry would thus necessitate removal the intended benefit of the connection geometry of Ley and therefore cannot be an obvious modification.

Second, the connection geometry in Ley is intended to provide an alternative to welding, and to avoid the necessity of welding altogether. As such using a resistance weld in conjunction with the connection geometry of Ley would defeat its basic purpose and cannot reasonably be argued to be an obvious modification. This is true regardless of the fact that resistance welding generally is a well known mechanism for joining two metal components and is generally referenced in Ley, Bush and many other prior art patents.

The present invention as claimed is directed to a specific improvement to a resistance welding process. The geometry of Ley is intended to provide an alternative to welding altogether. It is respectfully asserted that the Examiner's proposed addition of a resistance weld to the connection geometry of Ley is thus contrary to common sense and the rejection is thus inadequate as a matter of law.

For at least the foregoing reasons, Applicants assert that the rejection of claims 1-6, 8 - 13, and 25 based on Ley and Bush is improper and should be withdrawn.

Claim 29 was not rejected over Ley in view of Bush in the Final Office Action and so should be allowable over Ley and Bush regardless of the patentability of claims 1 – 6, 8 – 13 and 25.

Applicant respectfully asserts that the present claims are in condition for allowance. Withdrawal of the instant rejections and issuance of a Notice of Allowance is respectfully requested.

Respectfully submitted,

May 24, 2010
Date

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